

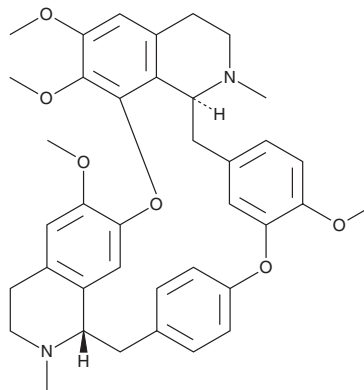
PRODUCT INFORMATION



Tetrandrine

Item No. 19874

CAS Registry No.: 518-34-3
Formal Name: (4aS,16aS)-3,4,4a,5,16a,17,18,19-octahydro-12,21,22,26-tetramethoxy-4,17-dimethyl-16H-1,24:6,9-dietheno-11,15-metheno-2H-pyrido[2',3':17,18][1,11]dioxacycloeicosino[2,3,4-ij]isoquinoline
Synonyms: NSC 77037, *d*-Tetrandrine, (S,S)-(+)-Tetrandrine
MF: C₃₈H₄₂N₂O₆
FW: 622.8
Purity: ≥98%
UV/Vis.: λ_{max}: 208, 283 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years
Item Origin: Plant/*Stephania tetrandra*



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Tetrandrine is supplied as a crystalline solid. A stock solution may be made by dissolving the tetrandrine in the solvent of choice, which should be purged with an inert gas. Tetrandrine is soluble in the organic solvent dimethyl formamide at a concentration of approximately 1 mg/ml.

Description

Tetrandrine is a *bis*-benzylisoquinoline alkaloid that has been found in *R. stephania* roots and has diverse biological activities.¹⁻⁴ It induces autophagy in HeLa, MCF-7, and human foreskin fibroblast (HFF) cells when used at a concentration of 5 μM, an effect that can be reversed by the autophagy inhibitor 3-methyladenine (Item No. 13242).¹ Tetrandrine inhibits PAF-, thrombin-, collagen-, ADP-, or epinephrine-induced aggregation of isolated human platelets.² Priming of mesenchymal stem cells (MSCs) with tetrandrine (5 and 10 μM) reduces TNF-α secretion by RAW 264.7 cells in co-culture.³ Ear skin transplantation of tetrandrine-primed MSCs decreases ear levels of TNF-α in a mouse model of ear skin inflammation. Tetrandrine (1 mg/kg) increases soleus muscle levels of glucose transporter 4 (Glut4) and decreases plasma glucose levels in a rat model of diabetes induced by streptozotocin (Item No. 13104).⁴

References

1. Wang, H., Liu, T., Li, L., *et al.* Tetrandrine is a potent cell autophagy agonist via activated intracellular reactive oxygen species. *Cell Biosci.* **5**, 4 (2015).
2. Wie, Q.-M., Tang, H.-F., Chen, J.-Q., *et al.* Pharmacological actions of tetrandrine in inflammatory pulmonary diseases. *Acta. Pharmacol. Sin.* **23**(12), 1107-1113 (2002).
3. Yang, Z., Concannon, J., Ng, K.S., *et al.* Tetrandrine identified in a small molecule screen to activate mesenchymal stem cells for enhanced immunomodulation. *Sci. Rep.* **6**, 30263 (2016).
4. Hsu, J.-H., Wu, Y.-C., Liou, S.-S., *et al.* Mediation of endogenous β-endorphin by tetrandrine to lower plasma glucose in streptozotocin-induced diabetic rats. *Evid. Based Complement. Med.* **1**(2), 193-201 (2004).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM